

1 INTRODUCTION

1.1 Purpose

The purpose of this manual is to document policies and procedures of the USEPA, Region 4, Analytical Support Branch. A defined system of quality control practices and operational policies is essential for insuring that data generated from analytical processes are well defined and defensible. This manual and the quality control protocols described herein are not to be viewed as all inclusive. Rather, they serve as a basic foundation on which to continually build a stronger quality assurance program within the Branch. While the design and development of a quality assurance program is a management function, each individual staff person shares the responsibility for maintaining a knowledge of the QA system and for following established quality control procedures.

1.2 Mission of the EPA Regional Laboratory

It is the mission of the Analytical Support Branch (ASB) to advance the EPA science agenda at the point where decisions are made by integrating laboratory activities with those of other technical partners into a holistic approach for protecting the environment and human health. This is achieved by maintaining a fully equipped environmental laboratory and a technically skilled, properly trained and dedicated staff that produces physical and chemical data of a known and defensible quality.

1.3 Operations Policy

It is a basic policy of the Analytical Support Branch to conduct all activities with four guiding principles: **(1) Safety; (2) Integrity; (3) Quality; and (4) Service**. All of these items must be present for successful operations.

1.3.1 Safety

The primary consideration in all laboratory operations must be safety. There is no assignment for which safety should ever be compromised. Safety takes priority over all considerations and it is the responsibility of each staff person to have a clear understanding of the basic safety rules and, in particular, how to safely perform operations within their area of responsibility. It is the responsibility of each individual to maintain a constant vigilance over safe operations and to notify their supervisor or the Branch Safety Officer of any unsafe conditions. If unsure of the safety of any method, procedure, or operational activity it is the responsibility of each individual to contact their supervisor. Never initiate an action, procedure, or method if unsure of how to proceed safely.

1.3.2 Data Integrity and Laboratory Ethics

It shall be the policy of the Region 4 Laboratory to conduct all business with integrity and in an ethical manner. It is a basic and expected responsibility of each staff member and each manager to hold to the highest ethical standard of professional conduct in the performance of all duties and to adhere to EPA's *Principles of Scientific Integrity*, dated November 24, 1999.

The Quality System of the Branch has this premise at its very foundation. It is absolutely essential that every employee of the Branch understand and uphold these ethical standards in order to preserve the basic integrity of all work products. Data Integrity, defined in its most simple terms as "the state of being unimpaired", concerns the ability to define and defend that the entire analytical process has been "unimpaired" and performed in accordance with appropriate practices and procedures. The ability to defend the integrity of the data is through complete documentation of actions and activities which includes such items as: maintaining chain of custody and security of the samples; clear documentation of the activities performed in the preparation and analysis of the samples and in the final data reduction, review, and reporting; and, by maintaining complete and clear files of these records.

1.3.3 Quality

It is the policy of the ASB that all data generated by the Branch be of the highest quality and shall meet or exceed the data quality objectives of each project.

Managers and analysts of the Branch share the responsibility of insuring that analytical methods, instruments, parameter detection and quantization are such that the data produced is scientifically sound and well documented. It is of utmost importance that the quality of all data produced by ASB be well defined and communicated to the end user(s) of the data. This policy is implemented by:

having in place and following a complete and systematic process of quality control activities to assist in defining data quality;

insuring that data quality is documented and communicated to all users of the data by assigning appropriate qualifier flags according to prescribed procedures;

and, by having a cross check system review process to verify that data are generated in accordance with sound and appropriate technical procedures and to insure that all activities associated with the analyses, calculations and data reduction are complete and accurate.

1.3.4 Service

ASB is a service organization and as such must maintain an awareness of customer needs as related to satisfaction with work products. Service is built upon two important principles:

Communication: Most often this involves simple discussions in order to convey a more complete understanding of the data quality objectives and sometimes to assist the customer in understanding analytical capabilities and limitations.

Communications also enhance the ability to learn of emerging needs and to plan accordingly. ASB management and staff must be proactive in the initiation of these discussions.

Timeliness: Timing of the presentation of final work products is often critical and is a vital part of the overall service performed. While it is ASB policy to never compromise Safety, Integrity or Quality for the sake of timeliness, it is none the less a driving factor in customer satisfaction. All staff must maintain a high degree of attention toward providing the data in a timely manner as established by project objectives. In the event circumstances result in late reports, the customer must be contacted and kept up to date on the issues surrounding the late data and to keep them abreast of the progress of project completion.